

# Airway Heights Reclaimed Water Experience

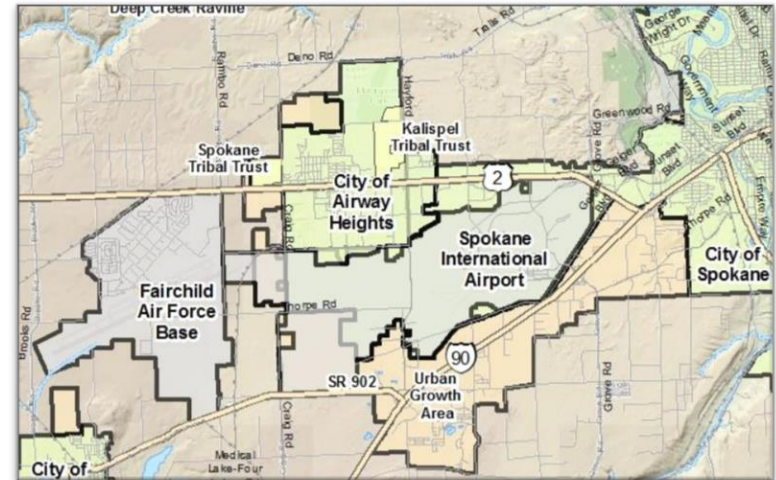
City of Airway Heights

Kevin Anderson, Public Works Director



# CITY OF AIRWAY HEIGHTS

- Located west of Spokane between Fairchild Air Force Base and Spokane International Airport on an area known as “West Plains”
- Population approx. 10,000
- One of the fastest growing cities in the greater Spokane region
  - Two growing Tribal casino developments
  - FAFB expanding mission and adding personnel

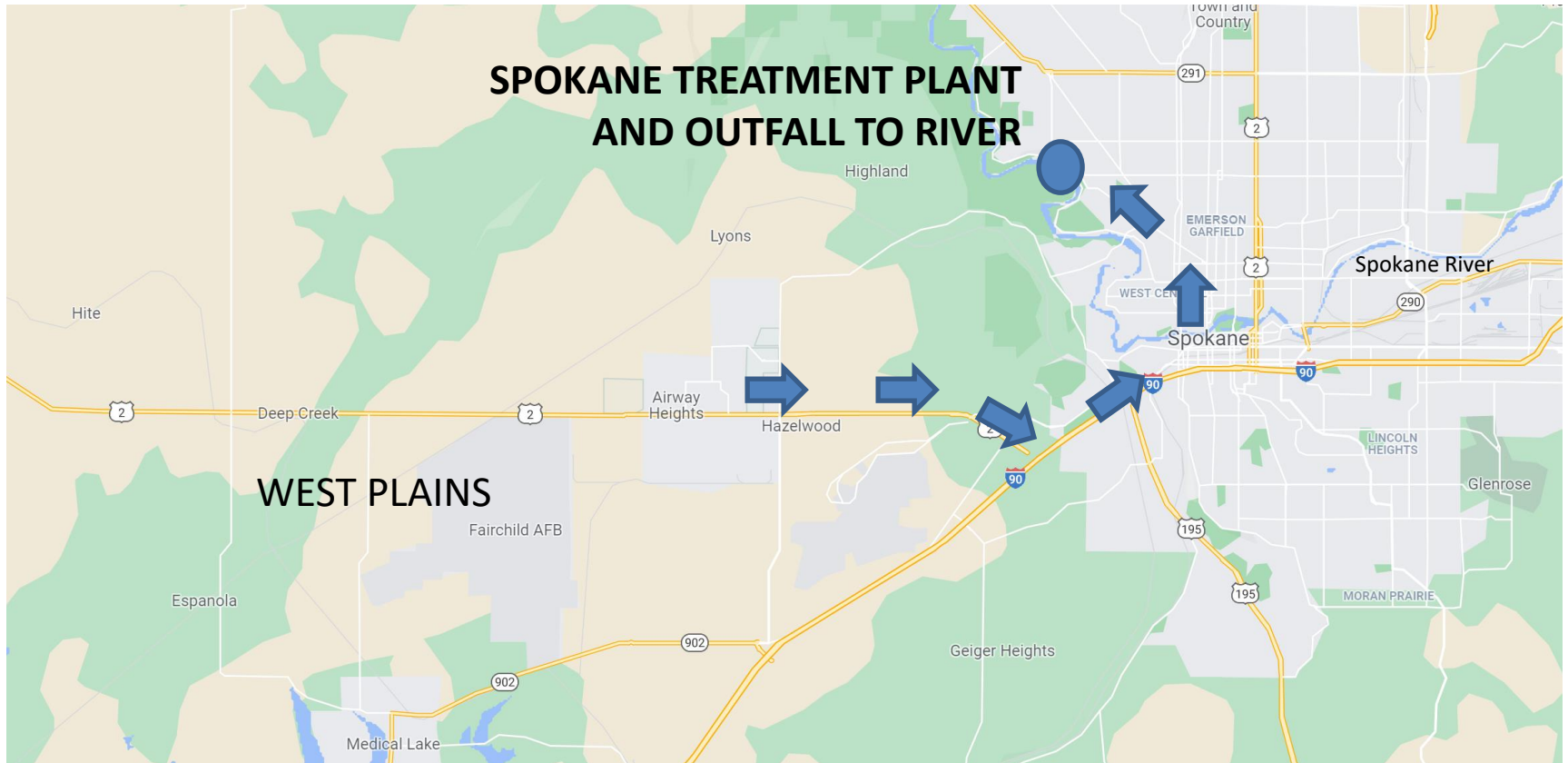


An aerial photograph of an industrial facility, likely a water treatment plant, featuring several large circular storage tanks, rectangular processing buildings, and a network of pipes and roads. The surrounding area is a mix of open land and some residential or commercial structures in the distance.

# HISTORICAL WATER CHALLENGES ON THE WEST PLAINS

- Declining Aquifer Levels (“Mining” of Aquifers)
- Multiple Jurisdictions Withdrawing Water
- Numerous Exempt Wells Impacted
- Increasing Demand for Water From Regional Growth
- No New Water Rights Being Issued on West Plains
- Water Leaving Basin Through Wastewater Discharge to River

# WASTEWATER TREATMENT PRIOR TO 2012 CONTRIBUTES TO DECLINE OF AQUIFER







# NEW WATER RECLAMATION PLANT - 2012

- \$43M state-of-the-art Water Reclamation Facility
- Approximately 1 MGD Class A Reclaimed Water
- Final treatment processes include microfiltration, UV and chlorine disinfection
- Reclaimed water provided to customers reduces peak summer potable water demands
- Water not used by customers discharges to paleochannel formation
- New potable water source (Recovery Well) located within same geological formation to maximize available water
- Keeps water in West Plains

# WRP SITE LAYOUT

Headworks Building w/Biofilter

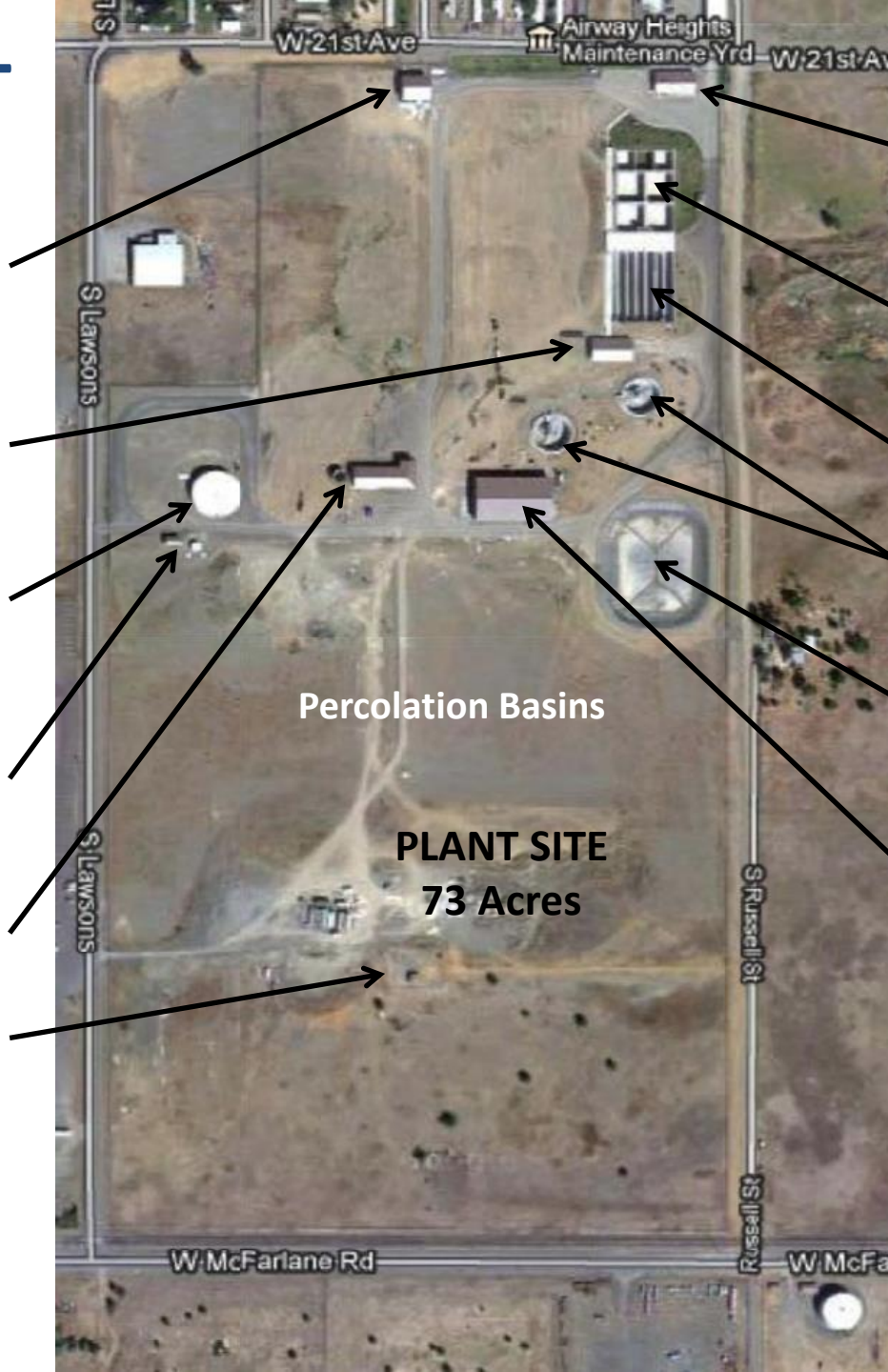
RAS/WAS Pump Building

Reclaimed Water Tank (1.0 MG)

Reclaimed Water Pump Station (Three (3) pumps at 545 GPM Each)

Dewatering Building

Supply Wells 1 & 4



Laboratory/ Operations Building

Anaerobic & Anoxic Basins

Aeration Basins

Clarifiers

Short-Term Storage Lagoon (2.0 MG)

Final Treatment Building



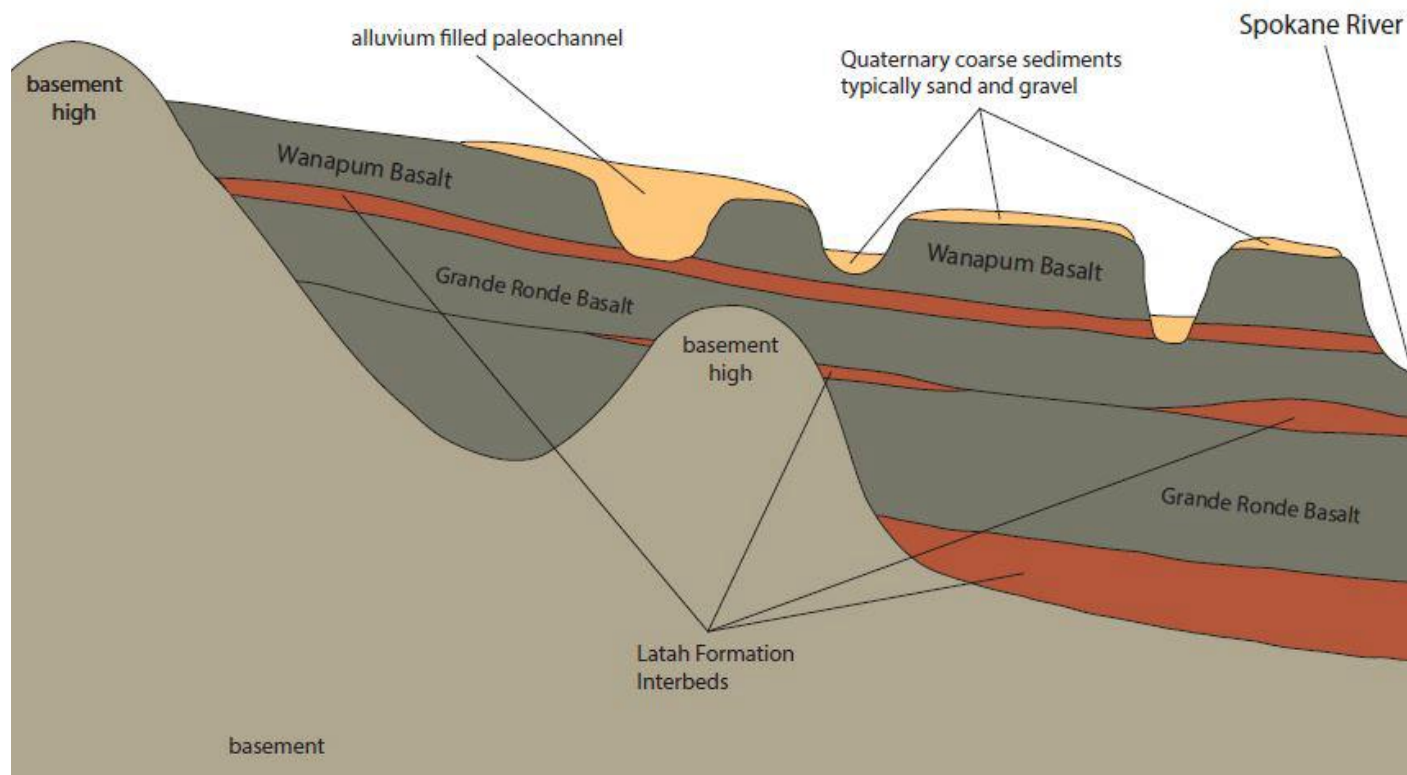
# COSTS AND FUNDING

## Capital Costs in Millions:

- **Design - \$2.07 million total**
  - \$1.0 M - PWTF
  - \$1.074 M - SRF Loan
- **Construction - \$40.86 million total**
  - \$7.0 M - Public Works Trust Fund (PWTF)
  - \$2.92 M - Centennial Clean Water Fund Grant
  - \$0.17 M - State Revolving Fund (SRF) Loan
  - \$3.35 M - Rural Development
  - \$22.97 M - ARRA Forgivable Principle and Loans
  - \$1.0 M - Legislative Appropriation
  - \$1.87 M - City Capital Fund
  - \$1.58 M - Tribal
- **\$28.47 M - (66% of total cost) in Non-Loan Funding**
- **\$14.46 M – (34% of total cost) In Borrowed Money**

# WEST PLAINS HYDROGEOLOGY – IDEALIZED WEST-EAST CROSS SECTION

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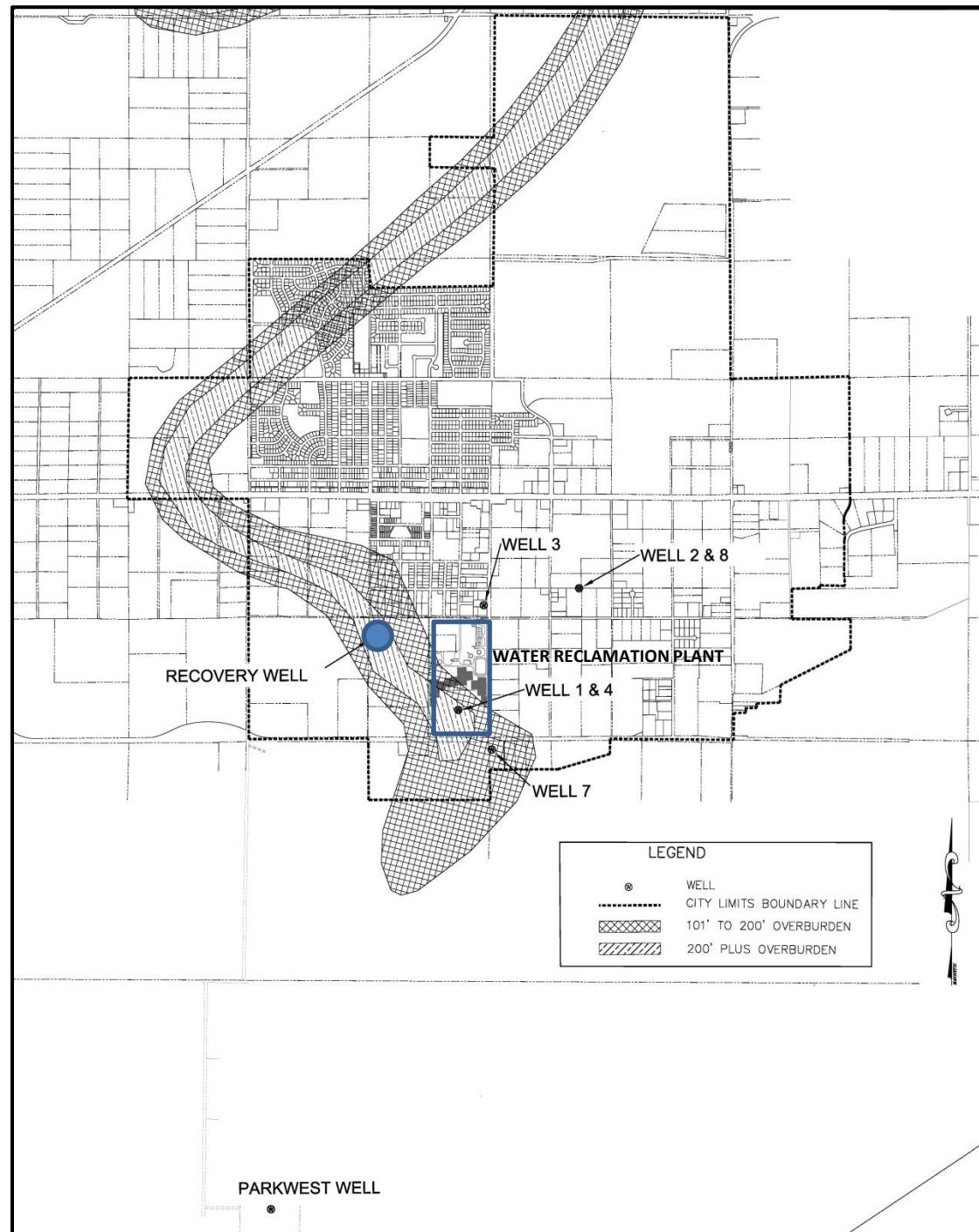


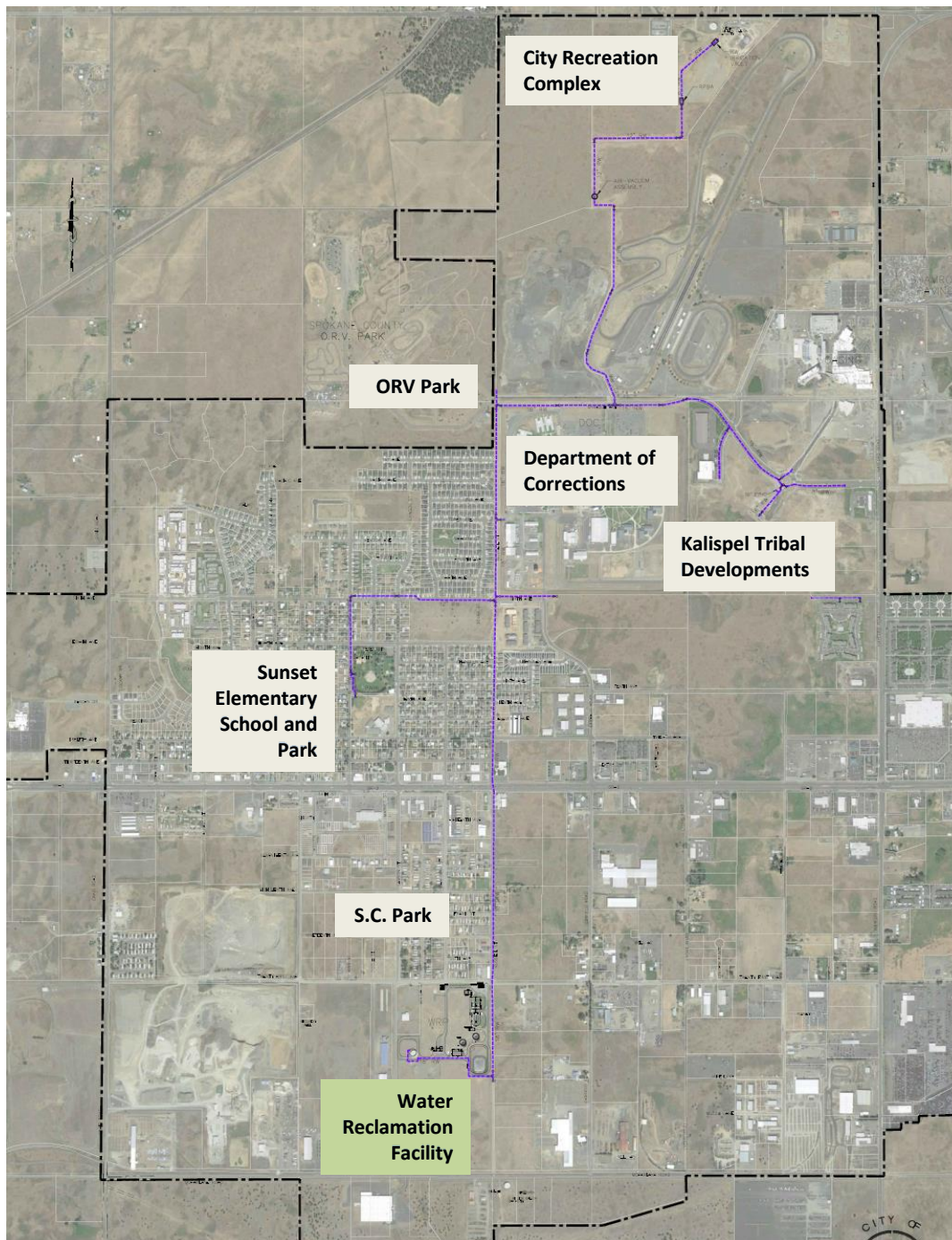


# CITY OF AIRWAY HEIGHTS

## Paleochannel & Well Map

- Reclamation Plant percolation beds provide for discharge into paleochannel
- New Recovery Well located in same geologic formation





# Re-use Customers

Approx. 5 miles of Purple Pipe Transmission Main

## Industrial

- Department of Corrections – Laundry and Boiler

## Irrigation

- Dept. of Corrections
- Kalispell Tribal
- Sunset Elementary
- Parks (several)

## Construction Water

- Two fill stations – dust control, general construction activities



An aerial photograph of an industrial facility, likely a water treatment or storage plant. The facility features several large, circular storage tanks, some with blue roofs, and several large, rectangular industrial buildings. The surrounding area is mostly flat, with some trees and other industrial structures visible in the distance. The text "WHAT'S NEXT" is overlaid in the upper center of the image.

# WHAT'S NEXT

- Develop Hydro-Geologic Model and Aquifer Storage and Recovery Application to Support “Recovery Water”
- Promote re-use to existing and future customers
  - Kalispel Tribe
  - Spokane Tribe
  - Multiple industrial customers (Spokane Rock Products, Spokane Galvanizing Co., Inland Asphalt, etc.)





# OVERALL POTABLE WATER USE COMPARISON

Comparison of water consumption (GPD/ERU) on an Average Day and a Peak Day, based on most recent Water System Plan data:

## Average Day Demand

Spokane	359 gallons/day
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Airway Heights	311
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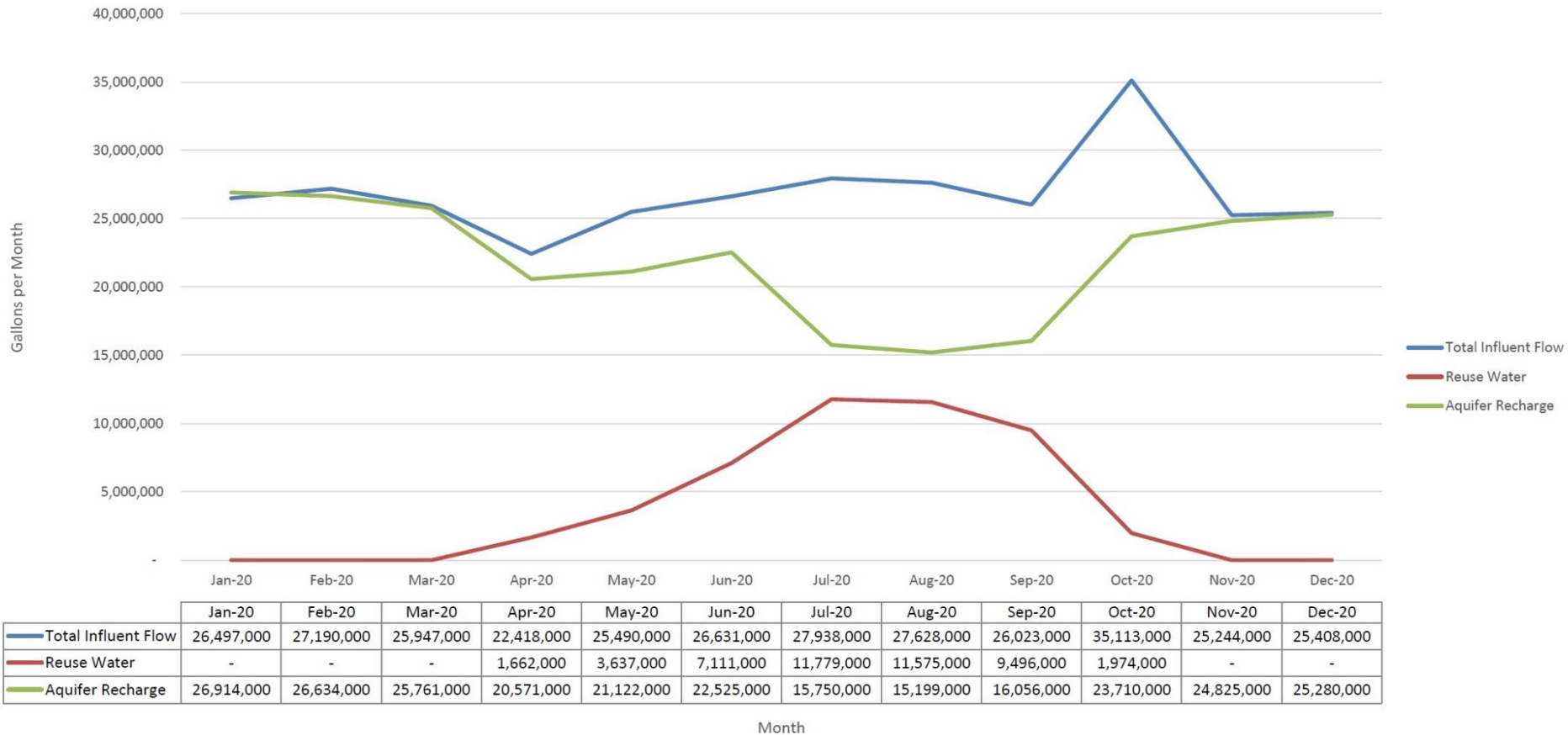
## Peak Day Demand

Spokane	1,126 gallons/day
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Airway Heights	904
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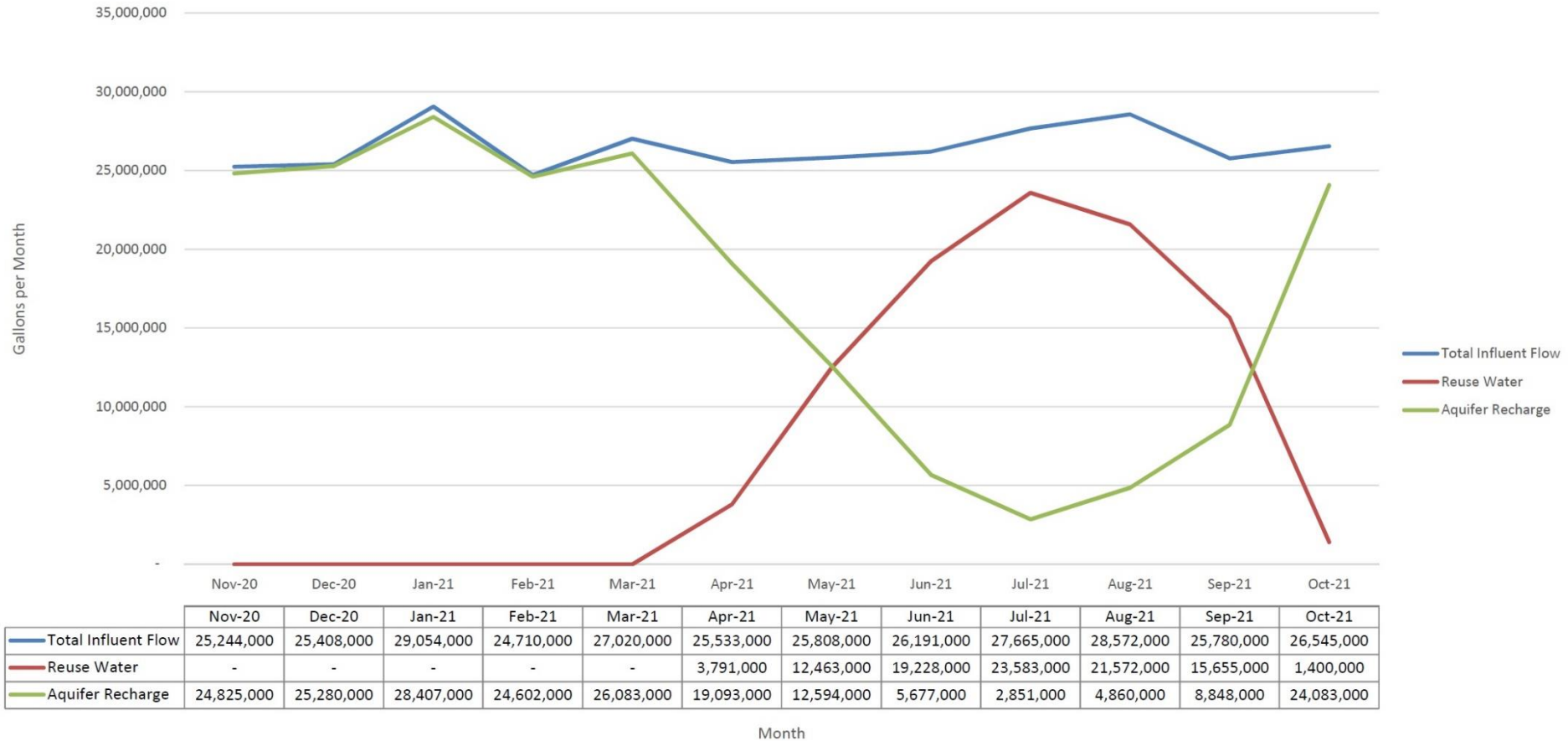
# 2020 RECLAIMED WATER

2020 City of Airway Heights Reclaimed Water Uses



# 2021 RECLAIMED WATER

City of Airway Heights Reclaimed Water Uses





QUESTIONS?

